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Cannabis in the UK: Is a persistent culture of denial leaving treatment needs hidden and priming a public health time bomb?

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"There are few substances which are surrounded by more controversy, and which have at the same time such important and potentially far-reaching public health implications"[1]

This comment, originally made in 2006, was never more apposite. Cannabis is still the most commonly used illicit substance in the UK and the one most widely used by adolescents. However, it continues to be exempt from the hazardous reputation held by other illicit drugs, drugs which are recognized by government as posing a serious public health risk.

Although its association with a range of health problems is established in the literature and is associated with double the risk of schizophrenia (from 0.7 in 1000 to 1.4 in 1000), a risk that starting young increases;[2] many view cannabis as non-problematic. This is in the face of evidence that shows that first episode psychosis is associated with the use of higher potency cannabis; and that its use is associated with increased relapse and problems with non-adherance to medication in patients with schizophrenia.[3] Although adolescent use significantly increases risks for dependence, other substance abuse problems, mental health problems and poor emotional, academic and social development,[4] symptoms that adolescent addiction psychiatrists routinely note, it is still viewed by many policy makers, advisors and commentators as a benign drug.

It is a drug around which, despite this ever growing corpus of scientific evidence, a culture of denial still persists. Of the mind altering drugs, it is the one with which demands for decriminalization or legalization are most associated.

Professor David Nutt, the former Chairman of the Advisory Council on the Misuse of Drugs, for example, in his recently invited oral evidence to the Homes Affairs Select Committee, continued to reiterate his claim that cannabis smoking is less harmful than alcohol.[5] Indeed, he argues that regulated cannabis would be an antidote to the more harmful (in his view) alcohol consumption. If cannabis cafes were allowed on the Dutch model, he posits that alcohol consumption would drop by a quarter without incurring any increased cannabis harm because so many people use the drug already – in his view apparently harmlessly. He could be accused of burying his head in the sand.

It is true that United Kingdom already has one of the highest rates of cannabis use in the developed world,[6] that one third of all UK adults have tried it and that some 2.2 million people used it 'last year' – that is 6.8 per cent of the population.[7] But the evidence that this level of use is already damaging public health, though not conceded by Professor Nutt, is powerful.

Firstly, it is the drug of the young and the drug of initiation. 17.1 per cent of British 16 - 24 year olds reported using it in the last year and 9 per cent of them in the last month.[8] Early initiation into cannabis use turns out to be almost uniquely British. The typical starting age is much younger than in other European countries – a startling 9 per cent of British schoolchildren start using it by the age of 13. In Holland and Germany the number is 6% and in Sweden just 2%.[9]

Young adults are the most dependent on this drug too. As many as 13.3 per cent of users between the ages of 16 and 24 and 9.0 per cent between the ages 25 and34 are judged to be dependent.[10] Men are nearly twice as likely to become dependent as women. While use has fallen considerably since 2003, dependency on cannabis has remained constant at 2.5 per cent since 2000. This compares with 0.9 per cent for all other drugs combined and is three times higher.[11]

But it is also true that the numbers of individuals in treatment with cannabis disorders are disproportionately low - both in comparison with heroin and crack cocaine - 7 per cent compared with 81 per cent citing opiate use[12] - and with respect to general population prevalence. (Amongst first time treatment referrals the proportion rises to 13 per cent.[13])

However it does not follow from this that cannabis is a relatively harmless drug or that no one needs treatment. To start with, the 'eligibility' principle for treatment of 'problem drug use' in the UK effectively precludes cannabis. Problem drug users, or PDUs, in Department of Health terminology, are heroin and crack cocaine users. The fourfold increase in the drug treatment budget in the last decade has and still is targeted at this population.

Low treatment numbers also reflect a lack of awareness of cannabis harms and their symptoms amongst users and medical professionals. Respiratory problems, mental health conditions, problems with concentration and memory impairment, may all be symptomatic of cannabis use. It is not clear, however, how many doctors in primary care would pick this up or indeed see conventional drug services as the appropriate treatment referral path.

It is particularly interesting in this context that Professor Nutt drew on The Netherlands to justify his call for licensing a regulated cannabis trade**.** For the relative number of people in treatment for cannabis related problems is very much higher in the Netherlands than it is in the UK. This is despite the fact that cannabis use (prevalence) is significantly lower in the Netherlands . At 3 per cent, it is half that of the UK. **[14]** Use by the young adult population is also comparatively lower; only 5.3 per cent of them are estimated to take the drug. [15] One possible explanation for this difference may be the local zero tolerance policy towards cannabis sales which some 76 per cent of the Dutch municipalities have adopted. [16]

Cannabis is the primary drug for which treatment is sought in the Netherlands - 38.4 per cent in 2009 were in treatment for cannabis, followed by 31.4 % for cocaine and 18.2 % for opioids. The proportion in treatment for the first time is even higher at 50.4 % (followed by 26.8 % for cocaine and 7.9 % for opioids).[17] Referrals have risen more than fourfold from 1,951 in 1994 to 8,410 in 2008. According to the writers of the Netherlands Drug Monitor 2009, this trend might point towards an increase in the number of problematic users of cannabis. It might also indicate the improvement of the professional care regarding cannabis problems, or an increase in the awareness of the addictive properties of cannabis, causing users to seek help at an earlier stage.

It is true that fewer opiate addicts, only 12 per cent of them, received treatment in the Netherlands by contrast with approximately 54 per cent of the heroin addict population in the UK.[18] But this still begs the question of why the difference between the two countries with respect to cannabis.

There is no evidence to suggest that cannabis is any less toxic (or less problematic) in the UK. In both countries, the THC content of cannabis (the main psychoactive constituent) has risen

dramatically since the 1990s. In the UK, by 2007/8, domestically produced high THC 'skunk' accounted for 81 per cent of the UK market.[19]

Furthermore, an analysis of hospital episode statistics reveals that there is indeed a growing cannabis problem in the UK, despite an overall fall in use. Between 1998 and 2011, mental and behavioural disorders, due to cannabis use, increased overall by 54 per cent – including an 108 per cent increase in harmful use episodes, a 51 per cent increase in dependence, a 61.8 per cent increase in psychotic disorders, and a 450 per cent increase in 'other mental and behavioural disorders.[20]

Over this same period, the medical and scientific establishment in the UK, led by the Advisory Council on the Misuse of Drugs, appeared set on downplaying cannabis risks and harms and legitimising use.

Though the current Home Secretary, Theresa May, has tough views on drugs, a gap between rhetoric and practice from earlier years persists. The attitude of successive British governments to cannabis has been ambivalent, and remains so, with regard to the policing of its possession. In 2002, the Government effectively relaxed its policy on cannabis. The specific policy goals, in the form of targets, to reduce the number of young people using drugs and to delay the age of initiation into drugs, were quietly dropped. To this day, they have not been reinstated. Instead, the government defined the more limited goal of reducing young people's Class A drug use and any frequent drug use.[21] Even today there is continuing pressure on the government both to 'stop wasting police time' with regard to cannabis possession and to halt the so called criminalization of children.

The policy of the Association of Chief Police Officers has itself been to treat cannabis as a low policing priority.

In the pro liberal political climate of David Blunkett's accession to the Home Office in 2002, the Advisory Council on Misuse of Drugs' (ACMD) advocacy for downgrading cannabis's harm rating[22] ".. was all but a done deal, they were pushing at an open door …", the Labour MP Gwyn Prosser has argued.[23]

The review of the scientific evidence was nominal and cursory in the ACMD's 22 page report advocating cannabis's reclassification. Of the 24 references listed, only 4 referred to the scientific literature on the effects of cannabis. Yet at that time, no less than 44 pre 2002 scientific publications on the negative impact of cannabis, including evidence of psychosis in cannabis users, dating back to 1972, were in the public domain.[24]

The report also denied that cannabis was a contributory cause of schizophrenia. Though research on this link was published eight months after the publication of the ACMD's 2002 report, the ACMD continued to deny it for the next two years – and to mislead ministers.[25] So when, in 2005, the then Home Secretary Charles Clarke requested the ACMD to reexamine the evidence relating to mental health, directing them to the higher THC content and a dangerously altered THC/CBD ratio, ACMD members were quick to express their misgivings. Sir Michael Rawlins (then Chairman) had already closed his mind. He insisted in correspondence in the Times (23rd January 2004) that most of Professor Murray's research was known to the Council at the time of its first report. In fact this was not the case. His research on the link with psychosis was not published until afterwards, in the BMJ November 23rd 2002.

Then, at a conference in April of that year, Rawlins confirmed he would not be 'confused' by the new data. True to his word, only 5 pages of the new 36 page response dealt with the research on the effects of cannabis on mental health, which was described as a 'biologically fraught hypothesis'.[26]

Cannabis could lead to short lived panic attacks and worsen the symptoms of schizophrenia, the ACMD report conceded. But it could ameliorate them too. It was not a necessary, nor a sufficient, cause for the development of schizophrenia. The report also stated that evidence about *consumption* of more potent cannabis was lacking. That was the medicine doled out to the Home Secretary. He took it.

The impact of this apparently neutral and high profile scientific assessment cannot be underestimated. The question it begs is whether it has encouraged a culture of denial about cannabis use disorders and distracted from the treatment of these disorders?

The epidemiological evidence then in public domain, not only suggested that cannabis use was a risk factor for schizophrenia, but in individuals with a predisposition for schizophrenia, it resulted in an exacerbation of symptoms and worsening of the schizophrenic prognosis.[27]

Jacqui Smith, a later Home Secretary, proved less malleable than her predecessor. She asked the ACMD to address the evidence once more. Again the Council was visibly affronted. Sir Michael Rawlins made his discontent public, saying that he wished they had not been asked.[28]

This episode does not reflect on the ACMD well. Between 2002 and 2008, no less than eight cohort studies were published showing the risk of psychosis to be higher in those that smoke cannabis - a risk increased by 6 to 7 times for heavy smokers, with early users, starting by age

15, having the greatest problems, 4 times higher than starting at 18 – a data trend which suggests the risk multiplies for each year younger.[29]

Despite the growing evidence that the prevalence and frequency of cannabis consumption, and therefore resultant psychosis, in the UK was among the highest in Europe, the ACMD remained adamant that these studies did not meet their bar of 'proof beyond reasonable doubt' and that more research was required.

Fifty six pages long, the ACMD's final report referred to more scientific papers than before.[30] But it ignored the key British longitudinal data on cannabis use, schizophrenia and psychosis. This showed that the operationally defined incidence of schizophrenia in South London had doubled between 1965 and 1999.[31] This study uniquely allowed for the examination of trends in cannabis use prior to first presentation with schizophrenia. It demonstrated a continuous and statistically significant rise in the incidence of schizophrenia between 1965 and 1997, a doubling over the last 3 decades, with the greatest increase in people under 35. It suggested that up to 20% of schizophrenia cases could be cannabis attributable.

Instead the ACMD relied on a GP data base survey, commissioned from one of their own members, which claimed a fall in the annual incidence of diagnosed schizophrenia and psychoses between 1996 and 2005.[32] But as Professor Murray since pointed out in The Guardian (29.10.2009) GP records on psychosis are far from accurate.

Although the Home Secretary erred on the side of caution and instructed cannabis be moved back to the more harmful Class B status, its reclassification did not end the culture of denial.

In full media glare, the ACMD's deputy chair, Professor Nutt, published an article in the Lancet setting out, through delphically derived but incomplete polling, a new classification of harms in which legal 'drugs', alcohol and tobacco, emerged more harmful than cannabis and ecstasy.[33]

By the time he was appointed to the chair of the ACMD, his views on the decriminalization of cannabis were well known. His sacking (for saying that ecstasy was less harmful than horse riding) precipitated complaints to the Government from him and other senior scientists – notably Professor Colin Blakemore, a former head of the Medical research Council and Professor John Beddington[34], Chief Scientific Advisor to the Government - that the government was refusing to heed proper scientific advice.

But was it? Or was Professor Nutt's own assessment of the scientific evidence with regard to cannabis wanting? He has since said that taking cannabis creates only a "relatively small risk" of psychotic illness".[35] He has also made known his emotive view that, "the obscenity of hunting down low-level cannabis users to protect them is beyond absurd." [36]

To this day, the British Government continues to exercise excessive and undue caution on this topic. James Brokenshire, recently Minister of State at the Home Office, acknowledged there was only, "a probable but weak causal link between psychotic illness, such as schizophrenia, and cannabis use. ….(and) whether this would become stronger with the wider use of higher potency cannabis (sinsemilla-sometimes referred to as 'skunk') was uncertain." He claimed there had been "no decisive new research since the 2008 ACMD report."[37]

But this was not true. Key research which confirmed that THC induces a transient, acute psychotic reaction in psychiatrically-well individuals was published in 2009.[38] A number of

other studies confirming and further elucidating the link and the risk factors had also been published:

One of them found an association between excessive cannabis use with an earlier onset bipolar disorder, whether or not it preceded or followed bipolar disorder onset, after adjusting for possible confounders, and that lifetime use of cannabis predicted an earlier onset.[39]

Another study found that the neuro developmental characteristic of adolescence creates a more vulnerable circumstance for cannabis to produce psychotic-like symptoms and possibly causes schizophrenia.[40]

Yet another study found that 42% of those having used cannabis daily had an acute mode of onset of psychosis, but only 20% of those without prior daily cannabis use had an acute onset. These findings suggest that cannabis use is associated with pre morbid social and academic functioning and mode of onset.[41]

More recent research adds to the large body of evidence relating cannabis use with psychosis, by demonstrating that cannabis use occurring earlier in development may also play a role in the development of sub threshold schizophrenia-like symptoms. This study found that cannabis use before the age of 14 years "strongly predicts" schizotypal symptoms in adulthood, independent of early adolescent schizotypy, major depression, anxiety, other drug use, and cigarette use.[42]

Cannabis legalization lobbies continue to ferociously rebut media comment on, or reportage of, any such studies or any reference to cannabis use doubling the chances of developing schizophrenia or that it can induce an irreversible illness. In face of the mounting evidence,

they continue to orchestrate rebuttals across government and medical websites and win newspaper retractions through complaints to the Press Complaints Commission.[43]

Yet the criteria applied by scientists to establish causality - dose, temporal relationship, no reverse causality, biological plausibility and specificity – have all been met with regard to the cannabis use/psychosis link.[44]

Cannabis use has nothing to recommend it. Recent studies now throw claims for medical efficacy into doubt.[45] Its negative impact on cognition, memory and academic outcome, explored by Thomas Lundquist in his study of the cognitive damage acquired by some 400 of the long-term cannabis abusers who had sought treatment at his outpatient clinic,[46] is regarded as seminal.

New research continues to reveal the multiple health consequences of smoking cannabis, yet there is still a dangerous lack of public awareness of how harmful this drug can be. The chief executive of the British Lung Foundation, Dame Helena Shovelton, said recently that:

"Young people in particular are smoking cannabis unaware that each cannabis cigarette they smoke increases their chances of developing lung cancer by as much as an entire packet of 20 tobacco cigarettes.“

She has called for a public health campaign to "dispel the myth that smoking cannabis is somehow a safe pastime.“ [47]

But to date, the government has not taken this evidence and such advice seriously enough. In fact, the lack of coherence about the government's message on cannabis, its continued policy of harm reduction through questionable information services for adolescents instead of robust treatment, is playing Russian roulette with adolescent health and mental health.

The level of public understanding about cannabis risks is still inadequate. A culture of denial is fed by Professor's Nutt's continued public minimization of cannabis harms and risks. This has impacted on awareness of and need for treatment. Treatment needs remain hidden and unmet, as the many desperate and tragic cases brought to the attention of Charities, such as Cannabis Skunk Sense http://www.cannabisskunksense.co.uk/, and self help groups like Clearhead http://www.clearhead.org.uk/ reveal.

Though our problem is worse, the UK response pales in comparison to other countries: like the Netherlands, where specialist teen rehabs (http://www.rnw.nl/english/article/teenage-cannabis-addiction-rise) offer robust abstinence treatment programmes running three to nine months ; and in Sweden, where the ground breaking MUMIN project with police and social workers working together, motivates thousands of young people into treatment.(www.mobiliser.nu)

The Government in the UK has neither fulfilled its pledge to run a major public health education campaign, nor has it used the criminal justice system to encourage adolescents and young adults into robust cessation treatment. Whether denial or avoidance, it is costing the Government. Professor Murray's assessment is that at least 10 per cent of all people with schizophrenia in the UK would not have developed the illness if they had not smoked

cannabis; this means there are about 25,000 individuals whose lives have been ruined by cannabis.

It is one of the reasons for the crisis in our mental health services, whose mental health wards have been described by one addiction psychiatrist as cannabis dependency units. Professor Peter Jones of Cambridge University, one of Britain's leading psychiatrists and an expert in schizophrenia, addressing an Institute of Psychiatry (London) Conference on 28th November 2005 said, "Cannabis is a huge issue for psychiatric services at this moment. I work in a first-contact schizophrenia service and it might as well be a Cannabis Dependency Unit". The Government insists it is committed to educating young people on the harms of drugs and is providing adolescent treatment services. But this is not enough.

Given the scale of current use, the high potency of the drug, and the ever earlier age of initiation into cannabis, harm reduction services for adolescents, in most of which continued cannabis use is tolerated, are inadequate. Inaction in the UK is priming a public mental health and treatment time bomb.

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Kathy Gyngell is a social policy analyst and research fellow at the Centre for Policy Studies think tank in London. She writes on drug policy, family and gender policy issues. She blogs regularly on the Daily Mail's online RightMinds comment page. She researched and chaired the Addictions reports in Breakdown and Breakthrough Britain, the Conservative Party's 2007 Social Justice Policy Review. Her particular interest in, and concern about, drug abuse stems from her research for two Centre for Policy Study reports – Shaun Bailey's *No Mans Land*: *How Britain's inner city young are being failed* (2006) and Ray Lewis's *From*

Latchkey to Leadership – channeling the talents of inner city youth (2007) which she co authored. Her reports, *The Phoney War on Drugs (CPS, 2009) and Breaking the Habit: why the state should stop dealing drugs and start doing rehab (CPS, 2011)* attracted widespread media coverage. She has a first class honours degree in social anthropology from Cambridge and an Oxford M.Phil in sociology.

Conflict of Interest:

I declare that I have no proprietary, financial, professional or other personal interest of any nature or kind in any product, service and/or company that could be construed as influencing the position presented in, or the review of, the manuscript entitled.

References:

[1] Henry J. Prof. Foreword. In Brett M. Cannabis A General Survey of its Harmful Effects Submission to The Social Justice Policy Group. 2012 Feb. Available from: http://www.eurad.net/filestore/PDF/CannabiscombineddocumentFeb2012.pdf

[2] Moore TH. Zammit S. Lingford-Hughes A. Barnes TR. Jones PB. Burke M. Lewis, G. Cannabis use and risk of psychotic or affective mental health outcomes: a systematic review. Lancet. 2007 Jul 28;370(9584):319-28.

3 Zammit S. Moore TH. Lingford-Hughes A. Barnes TR. Jones, PB. Burke M. Lewis, G. Effects of cannabis use on outcomes of psychotic disorders: systematic review. Br J Psychiatry. 2008 Nov;193(5):357-63

4 Hall W. Degenhardt L. Adverse Health Effects of Non-Medical Cannabis Use. Lancet 2009 Oct;374 (9698):1383-1391

5 Nutt D, Prof. Oral evidence to The Home Affairs Select Committee, 2002 Jun 19.

[6] European Monitoring Centre for Drug and Drug Addiction. Country overview: United Kingdom. Available from: http://www.emcdda.europa.eu/publications/country-overviews/uk#pdu

[7] Home Office Statistical Bulletin. Drug Misuse Declared: Findings from the 2010/11 British Crime Survey. London: Home Office. 2011 Jul. Available from: http://www.homeoffice.gov.uk/publications/science-research-statistics/research-statistics/crime-research/hosb1211/

[8] Home Office Statistical Bulletin. Drug Misuse Declared: Findings from the 2010/11 British Crime Survey. London: Home Office. 2011 Jul. Available from:

http://www.homeoffice.gov.uk/publications/science-research-statistics/research-statistics/crime-research/hosb1211/

[9] EMCDDA [Internet] Table EYE-23. All ESPAD school surveys: prevalence and patterns (percentages) of cannabis use among students 15-16 years. Available from: http://www.emcdda.europa.eu/stats11/eyetab23a

[10] National Health Service. Adult Psychiatric Morbidity in England, 2007: results of a household survey. p. 38. Available from: http://www.ic.nhs.uk/pubs/psychiatricmorbidity07

[11] National Health Service. Adult Psychiatric Morbidity in England, 2007: results of a household survey. p. 16. Available from: http://www.ic.nhs.uk/pubs/psychiatricmorbidity07

[12] Department of Health. Statistics from the National Drug Treatment Monitoring System (NTDMS) London: National Treatment Agency for Substance Misuse; 2010 Nov. The majority of those in treatment, 49%, cite opiates as their main drug of misuse. Another 32 per cent cite opiates with crack cocaine.

[13] European Monitoring Centre for Drug and Drug Addiction. Country overview: United Kingdom. Available from: http://www.emcdda.europa.eu/publications/country-overviews/uk#pdu

[14] European Monitoring Centre for Drug and Drug Addiction. Country overview: Netherlands. Available from: http://www.emcdda.europa.eu/publications/country-overviews/nl#gps

[15] European Monitoring Centre for Drug and Drug Addiction. Country overview: Netherlands. Available from: http://www.emcdda.europa.eu/publications/country-overviews/nl#gps

[16] B Bieleman et al. Coffeeshops in Nederland, 2008.

[17] European Monitoring Centre for Drug and Drug Addiction. Country overview: Netherlands. Available from: http://www.emcdda.europa.eu/publications/country-overviews/nl#gps

[18] Department of Health. Statistics from the National Drug Treatment Monitoring System (NTDMS) London: National Treatment Agency for Substance Misuse; 2011

[19] Hardwick S. King L. Home Office Cannabis Potency Study 2008. London: Home Office. 2008.

[20] HES Online [Internet] Hospital Episode Statistics, Primary diagnosis: 4 character. 1999-2012. [cited 2012 Jun 19] Available from: http://www.hesonline.nhs.uk/Ease/ContentServer?siteID=1937&categoryID=214

[21] Home Office [Internet] Updated Drugs Strategy 2002. 2002. [cited 2012 Jun 19] Available from: https://www.education.gov.uk/publications/standard/publicationdetail/page1/HO-Drug-Strategy

[22] Home Office [Internet] The Classification of Cannabis under the Misuse of Drugs Act 1971. 2002. [cited 2012 Jun 19] Available from: http://www.homeoffice.gov.uk/acmd1/cannabis-class-misuse-drugs-act

[23] The Report [Radio] London: BBC 2010 Nov 19

[24] Brett M. Cannabis A General Survey of its Harmful Effects Submission to The Social Justice Policy Group. 2012 Feb. [cited 2012 Jun 19] Available from: http://www.eurad.net/filestore/PDF/CannabiscombineddocumentFeb2012.pdf

[25] Murray R. Prof The Guardian. [letter] 2006 Jan 19

[26] Advisory Council on the Misuse of Drugs Strategy [Internet] 2005 Dec, Further Consideration of the Classification of Cannabis under the Misuse of Drugs Act 1971. [cited 2012 Jun 19] Available from: http://www.csdp.org/research/cannabis_reclass_2005.pdf

[27] Simona A. Stilo,MD; Robin M. Murray RM. Translational Research 2010: The epidemiology of schizophrenia: replacing dogma with knowledge. Dialogues Clin Neurosci. 2010 Sep;12(3):305–315.

[28] Advisory Council on the Misuse of Drugs. Full Council Meeting Minutes. 2007 Nov 29. [cited 2012 Jun 19] Available from: http://www.homeoffice.gov.uk/acmd1/meeting-november-2007/minutes?view=Binary

[29] Brett M. Cannabis A General Survey of its Harmful Effects Submission to The Social Justice Policy Group. 2012 Feb. Available from: http://www.eurad.net/filestore/PDF/CannabiscombineddocumentFeb2012.pdf

[30] Advisory Council on the Misuse of Drugs Strategy [Internet] 2008, Cannabis: Classification and Public Health. 2008. [cited 2012 Jun 19] Available from: http://www.homeoffice.gov.uk/acmd1/acmd-cannabis-report-2008

[31]. Boydell J. van Os J. Caspi A, Kennedy N. Giouroukou E. Fearon P. Farrell M. Murray RM. 2006. Trends in cannabis use prior to first presentation with schizophrenia, in South-East London between 1965 and 1999. Psychological Medicine 36:1441–1446)

[32] Frisher M. Crome I. Martino O. Croft P. Assessing the impact of cannabis use on trends in diagnosed schizophrenia in the United Kingdom from 1996 to 2005. Schizophr Res. 2009 Sep;113(2-3):123-8)

[33] David Nutt, Colin Blakemore, Leslie King, Development of a rationale Scale to assess the harm of drugs of potential misuse, The Lancet, 2007, 369:1047-53

[34] Ghosh, P. Science Chief Backs Cannabis View. BBC News Online. 2009 Nov 3. [cited 2012 Jun 19]. Available from: http://news.bbc.co.uk/1/hi/sci/tech/8340318.stm. "I think the scientific evidence is absolutely clear cut. I would agree with it."

[35] Jones S. Booth, R. David Nutt's sacking provokes mass revolt against Alan Johnson. The Guardian. 2009 Nov 1. Available from: http://www.guardian.co.uk/politics/2009/nov/01/david-nutt-alan-johnstone-drugs

[36] Vuillamy E. Richard Nixon's 'war on drugs' began 40 years ago, and the battle is still raging. The Guardian. 2011, Jul 24. Available from: http://www.guardian.co.uk/society/2011/jul/24/war-on-drugs-40-years

[37] Brokenshire J. Written Answer. HC Deb, 2011 Apr 4, c586W

[38] Morrison PD, Zois V, McKeown DA, Lee TD, Holt DW, Powell JF, Kapur S, Murray RM.

The acute effects of synthetic intravenous Delta9-tetrahydrocannabinol on psychosis, mood and cognitive functioning. Psychol Med. 2009 Oct;39(10):1607-16.

[39] Lagerberg T. Sundet K. Aminoff S. Berg Akiah. Ringen P Andreassen, O. Melle I. Excessive cannabis use is associated with earlier age at onset in bipolar disorder. Eur Arch Psychiatry Clin Neurosci. 2011 Sep;261(6): 397–405

[40] Malone DT, Hill MN, Rubino T. Adolescent cannabis use and psychosis: epidemiology and neurodevelopmental models. Br J Pharmacol. 2010 Jun;160(3):511-22.

[41] Compton MT, Broussard B, Ramsay CE, et al. Pre-Illness Cannabis Use and the Early Course of Non affective Psychotic Disorders: Associations with Premorbid Functioning, the Prodrome, and Mode of Onset of Psychosis, Schizophr Res 2011; 126(1-3):71-6

[42] Brooks M. Early Cannabis Use Tied to Schizotypal Personality Disorder. Schizophrenia Res. 2012;137:45-49.

[43] Clear: Cannabis Law Reform [Internet] [cited 2012 Jun 19]. Available from: http://www.clear-uk.org/category/press-complaints-commission/ Over 70 entries in the PCC Category on the CLEAR website indicate that a vigorous campaign is being pursued

[44] D'Souza DC. Sewell RA. Ranganathan M. Cannabis and psychosis/schizophrenia: human studies. Eur Arch Psychiatry Clin Neurosci. 2009 Oct;259(7):413-31.

[45] Reuters. Cannabis fails to slow progress of multiple sclerosis in study. Fox News Online. 2012 May 29. [cited 2012 Jun 19]. Available from: http://www.foxnews.com/health/2012/05/29/cannabis-fails-to-slow-progress-multiple-sclerosis-in-study/

[46] Ranström J. Adverse Health Consequences of Cannabis Use: A Survey of Scientific Studies Published up to and including the Autumn of 2003. Stockholm: National Institute of Public Health Sweden; 2004.

[47] Laurance J. Young cannabis users 'do not realise the huge danger to their health'. Independent Online. 2012 Jun 6. [cited 2012 Jun 19]. Available from: http://www.independent.co.uk/life-style/health-and-families/health-news/young-cannabis-users-do-not-realise-the-huge-danger-to-their-health-7818050.html